

**WHAT IS CLAIMED IS:**

1. A disk drive apparatus comprising:

a main apparatus comprising a frame;

a disk tray causing a disk to move between a stored position

5 and a drawn-up position relative to the main apparatus, the disk tray comprising one surface on which the disk is placed;

a disk rotational drive mechanism rotationally driving the disk;

10 an optical pickup mechanism performing at least one of reading stored information from the disk and writing information onto the disk;

15 a moving movable member supporting the disk rotational drive mechanism and the optical pickup mechanism, the movable member comprising

an end provided so as to freely rotate relative to the frame of the main apparatus, and a protrusion provided thereon, which extends toward the end of the movable member;

20 an elevator drive mechanism bringing the disk rotational drive mechanism and the optical pickup mechanism closer to or farther away from the disk, with the movable member free to rise and fall; and

a vibration-absorbing member provided on the protrusion which, when the disk is moved to the stored position, comes into contact with another surface of the disk tray.

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2. The disk drive apparatus according to claim 1, wherein the

protrusion comprises a rising piece and an attachment piece which extends from an end of the rising piece toward the end of the rising of the movable member, and wherein the vibration-absorbing member is attached to the attachment piece.

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3. The disk drive apparatus according to claim 1, wherein the vibration-absorbing member comprises an annular resilient member buried in the protrusion.

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4. The disk drive apparatus according to claim 1, wherein the vibration-absorbing member comprises a resilient member, which is inserted into a hole provided in the protrusion.

5. A disk drive apparatus comprising:  
     a main apparatus comprising a frame;  
     a disk tray causing a disk to move between a stored position and a drawn-up position relative to the main apparatus, the disk tray comprising one surface on which the disk is placed;  
     a disk rotational drive unit rotationally driving the disk;  
     an optical pickup unit performing at least one of reading stored information from the disk and writing information onto the disk;  
     a moving movable member supporting the disk rotational drive unit and the optical pickup unit, the movable member comprising an end provided so as to freely rotate relative to the frame  
     of the main apparatus, and  
     a protrusion provided thereon, which extends toward the end

of the movable member;

an elevator drive unit bringing the disk rotational drive unit and the optical pickup unit closer to or farther away from the disk, with the movable member free to rise and fall; and

5        a vibration-absorbing member provided on the protrusion which, when the disk is moved to the stored position, comes into contact with another surface of the disk tray.

6.       The disk drive apparatus according to claim 5, wherein the protrusion comprises a rising piece and an attachment piece which extends from an end of the rising piece toward the end of the rising of the movable member, and wherein the vibration-absorbing member is attached to the attachment piece.

7.       The disk drive apparatus according to claim 5, wherein the vibration-absorbing member comprises an annular resilient member buried in the protrusion.

8.       The disk drive apparatus according to claim 5, wherein the vibration-absorbing member comprises a resilient member, which is inserted into a hole provided in the protrusion.

9.       A disk drive apparatus comprising:

a main apparatus;

a disk tray, slidably supported by the main apparatus, a disk being placed on one surface of the disk tray, movement of the disk

tray causing the disk to move between a stored position and a drawn-up position relative to the main apparatus;

a disk rotational drive mechanism rotationally driving the disk;

5 an optical pickup mechanism performing at least one of reading stored information from the disk and writing information onto the disk;

10 a movable member supporting the disk rotational drive mechanism and the optical pickup mechanism, one end of the movable member being rotatably linked to the main apparatus;

an elevator drive mechanism causing another end of the movable member to rise and fall relative to the main apparatus, whereby

when the disk is at the stored position the movable member is moved to a first position,

15 when the disk moves between the stored position and the drawn-up position the movable member is moved to a second position,

when the movable member is at the first position the other end of the movable member comes into proximity to another surface of the disk tray, the disk rotational drive mechanism coming into  
20 contact with the disk, and the optical pickup mechanism coming into proximity to the disk, and

when the movable member is at the second position the other end of the movable member moves away from the other surface of the disk tray, so that the disk rotational drive mechanism and optical  
25 pickup mechanism move away from the disk, thereby enabling movement of the disk tray and the disk;

a protrusion provided on the movable member; and

a vibration-absorbing member mounted to the protrusion, the vibration-absorbing member, when the disk is at the stored position and the movable member is at the first position, coming into contact  
5 with the other surface of the disk tray.

10. The disk drive apparatus according to claim 9, wherein the protrusion extends toward an end of the movable member from another end thereof.

11. The disk drive apparatus according to claim 9, wherein the protrusion is disposed substantially parallel to the disk in the stored position.

12. The disk drive apparatus according to claim 11, wherein the movable member has a side wall on the other end thereof, the protrusion extending as one therewith from an edge of the side wall.

13. The disk drive apparatus according to claim 12, wherein the protrusion comprises a rising piece continuous from an edge of the side wall and an attachment piece extending from an end of the rising piece toward the end of the movable member, and wherein the movable member is attached to the attachment piece.

14. The disk drive apparatus according to claim 9, wherein the vibration-absorbing member comprises an annular resilient member

buried into the protrusion.

15. The disk drive apparatus according to claim 9, wherein the protrusion has a hole, and wherein the vibration-absorbing member
- 5 comprises a resilient member inserted into the hole of the protrusion.

Approved for Release